COMTROL®

Comtrol Corporation is an expert device connectivity manufacturer and provider of networking products, specializing in industrial Ethernet gateways and intelligent embedded device connectivity products. These products support a wide range of industrial, security, power utility and traffic automation applications. The company's RocketPort® multi-port serial cards, DeviceMaster® Ethernet device servers, and RocketLinx™ industrial grade Ethernet and Power over Ethernet switch product lines are sold through regional, national, and international distributors and by thousands of resellers and integrators worldwide.

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ETHERNET SWITCH - UNMANAGED

DIVISION 27 – COMMUNICATIONS

27 20 00 Data Communications
27 21 29 Data Communications Switches and Hubs

Notes to Specifier:

1. Where several alternative parameters or specifications exist, or where, the specifier has the option of inserting text, such choices are presented in **[bold text]**.
2. Explanatory notes and comments are presented in text.

PART 1 GENERAL

1.01 SUMMARY

A. *Section includes a 10-Port Ethernet network switch, allowing Ethernet devices to communicate with one another, shipped in a fixed configuration, with only alarms being user configurable.*

B. *Product - 10-Port Industrial PoE unmanaged switch with eight 10/100BASE-TX PoE injector ports and two 10/100/1000BASE-TX uplink ports*

C. *Related Requirements*

1. [Insert relevant related requirements]

1.02 REFERENCES

A. *Abbreviations*

1. MTBF - Mean Time Between Failures
2. PoE - Power over Ethernet
3. QoS - Quality of Service
4. VoIP - Voice over IP

B. *Reference Standards*

1. IEEE 802.3 Ethernet Standards
   a. IEEE 802.3i - 10BASE-T
   b. IEEE 802.3u - 100BASE-TX,
   c. IEEE 802.3ab - 1000BASE-TX
   d. IEEE 802.3af Power over Ethernet
   e. IEEE 802.3x Flow Control and Back-Pressure
   f. IEEE 802.1p Class of Service
2. Emissions
   a. FCC Part 15 Subpart B, Class A limit
   b. Canadian EMC Requirement ICES-003
   c. European Standard EN55022
3. Immunity - European Standard EN55024
   a. IEC61000-4-2/EN61000-4-2: ESD
   b. IEC61000-4-3/EN61000-4-3: RF
   c. IEC61000-4-4/EN61000-4-4: Fast Transient/Burst
   d. IEC61000-4-5/EN61000-4-5: Surge
   e. IEC61000-4-6/EN61000-4-6: Conducted Disturbance
   f. IEC61000-4-8/EN61000-4-8: Magnetic Field
   g. IEC61000-4-11/EN61000-4-11: DIPS and Voltage Variations

4. Safety
    a. IEC 60950/EN60950
    b. CSA C22.2 No. 60950/UL60950 Third Edition
5. ROHS - European Standard: 2002/95/EC Directive (RoHS)

1.03 SUBMITTALS

A. *Product Data*
1. Manufacturer's printed or electronic data sheets
2. Manufacturer's installation and operation manuals
3. Warranty Documentation

1.04 QUALIFICATIONS

A. *Manufacturer of system shall have a minimum of three years' experience of successful installation of systems equivalent in function to the system proposed herein.*
B. *Installation contractor shall be authorized to install service and maintain the system by the system manufacturer.*

1.05 WARRANTY

A. *Manufacturer shall support a minimum limited warranty of five years.*

END OF SECTION

PART 2 PRODUCTS

2.01 SOFTWARE

A. *Manufacturer:* Comtrol Corporation
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B. *Model* 7110-VB

2.02 DESCRIPTION

A. *General* - The Ethernet Switch ("Switch") shall be a 10-Port device, eight of which are 10/100BASE-TX capable of PoE injection and two are 10/100/1000BASE-TX Gigabit Ethernet capable uplink ports.
   1. The Switch shall have a 32 Gbps internal switching fabric
   2. The Switch shall support at least 8000 MAC addresses in its internal memory
   3. The Switch shall support an MTBF of greater than 20 years

B. *Power over Ethernet (PoE)*
   1. The eight PoE ports shall be fully IEEE 802.3af compliant
   2. The Switch shall support a total PoE power consumption of 65 watts, under all input voltage ranges specified by the manufacturer

C. *Quality of Service (QoS)* - The Switch shall fully support QOS in accordance with IEEE 802.1p for optimization of video and voice over the network

D. *Alarms*
   1. The Switch shall contain an alarm relay for failure and event notification rated for 1 Amp at 24 VDC.
   2. Each Switch port shall have an Alarm capability, configured via DIP switch to automatically trigger on connection issues when ports are connected to an auto-negotiation 10/100 full-duplex device.

E. *Indicators* - The Switch shall provide visual indication of the following:
   1. input voltage
   2. port failure condition
   3. delivery of power from a PoE port
   4. device connected to port
   5. full-duplex mode
   6. collision of frames in half-duplex mode
   7. port speed

F. *Voltage Input*
   1. The Switch shall be powered by 12-24 VDC via 4-pin industrial terminal block

G. *Enclosure*
   1. The Switch shall be packaged in industrial-grade aluminum IP30 housing
   2. The Switch shall provide for DIN rail or wall-mount installation

H. *Environmental*
   1. The Switch operating temperature range shall be -20° to +60°C
   2. The Switch shall operate in a non-condensing humidity range of 0 - 95%

END OF SECTION

PART 3 EXECUTION

3.01 INSTALLERS

A. The Installer must demonstrate sufficient network knowledge to the satisfaction of the Owner's representative.

3.02 STORAGE

A. The Switch shall be stored in an environment where temperature is in the range of -40° to +80°C and humidity is 0 - 95%

3.03 INSTALLATION

A. Before permanent installation of the system, the system shall be tested in a configuration equivalent to the final system.

END OF SECTION